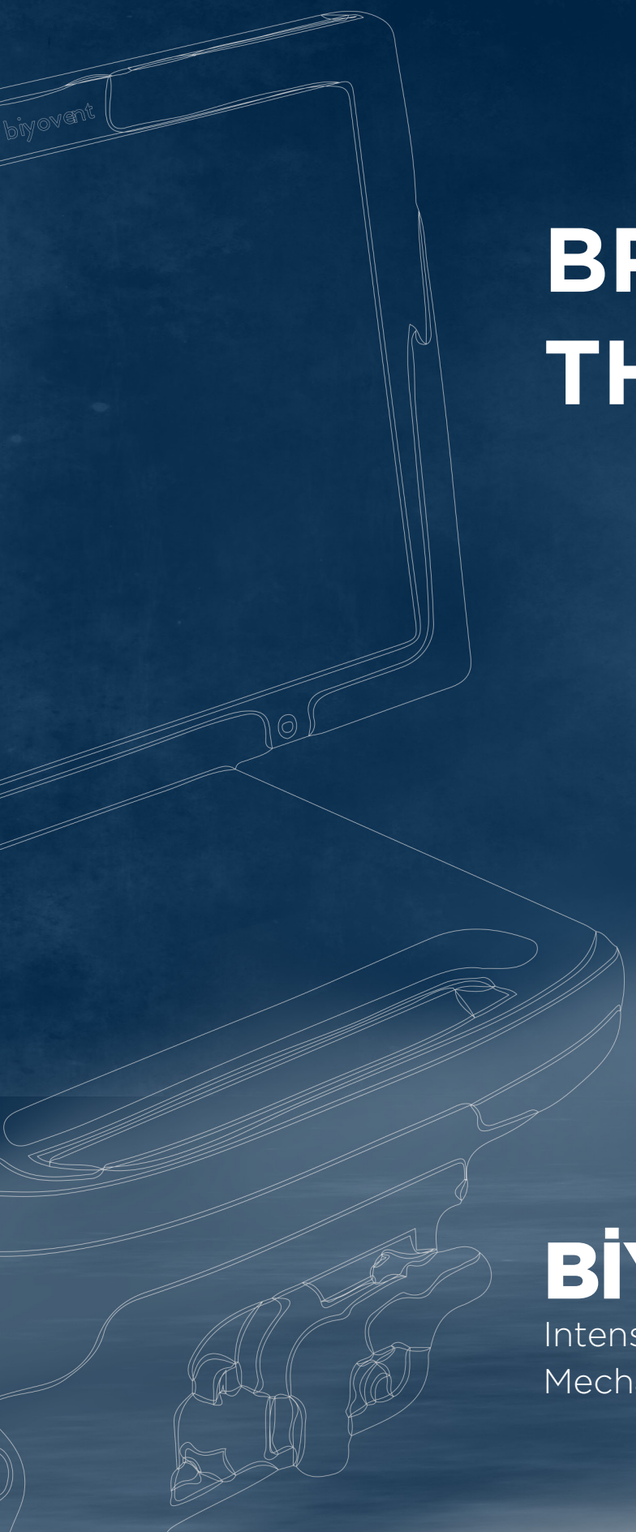
biosys

BİYOVENT

Intensive Care Type

Mechanical Ventilator Device

www.biosys.com.tr



BREATHE THE FUTURE

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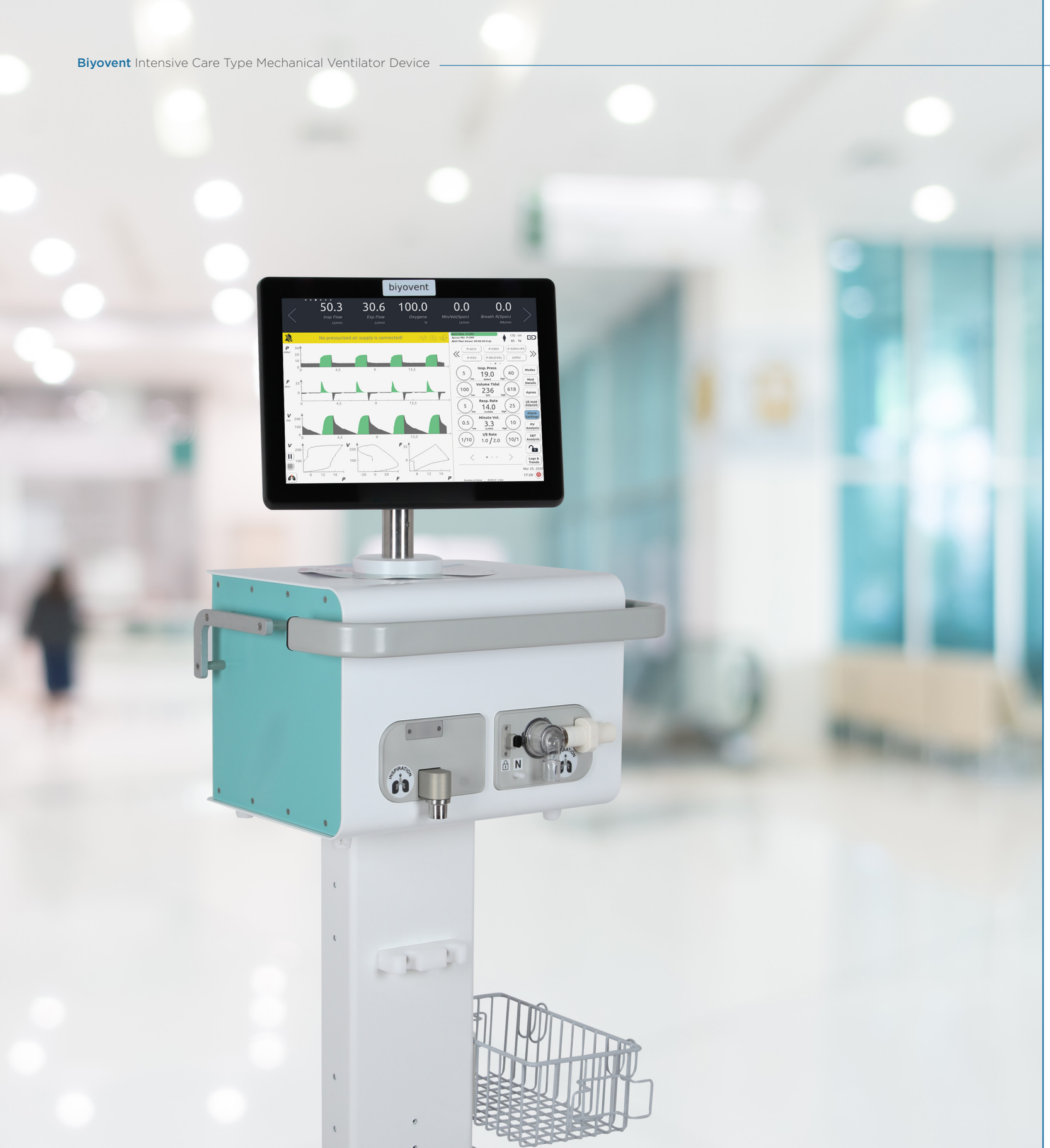


OUR BUSINESS: SOURCE OF THE LIFE

We produce technology for breathing, and breathing for health.

As Biosys, we offer solutions for the deficiencies in the medical sector with competent engineers and specialist doctors having many years of R&D experience since 2012. In our working process, we are progressing with the awareness that benefiting from health services is the most fundamental social right and that this right must be provided to every individual and we develop our technologies with this awareness.

We make our ideas a reality in our R&D center in order to meet both national and global needs in the field of health by developing new generation medical technologies. We know that even the smallest work and business we carry out can affect the health of an individual on earth, and for this, we carry out meticulous and deep studies to design every detail in our products perfectly. Thanks to our effective and safe production approach, we produce new generation medical technologies at high quality and reliability, and we hope for a healthy life.

In the technologies we have developed for the needs and demands of the health sector, we do not only advance and improve by relying on our engineering expertise, but also we carry out a multidisciplinary study shaped by the opinions of doctors in every step we take. Thus, we make a difference in the health sector with medical devices that have high technological threshold values and fully meet the needs, and have the best design, software and technology. With this difference, we continue to progress confidently to affect the health of every individual and to be the gateway to a healthy life in the world.

DETAILED RESEARCH, EXCELLENT RESULT

We make a Difference in Intensive Care Systems with New Generation Technology.

As Biosys, as a result of the researches we conducted to meet the needs of the health sector, we realized that there are deficits especially in intensive care systems and that these deficits directly affect both healthcare professionals and patients. In line with this awareness, as a result of 5 years of R & D activity that we have carried out with the opinions of specialist doctors, we have developed the Biyovent Intensive Care Type Mechanical Ventilator Device.

In the production of intensive care type mechanical ventilator device with Biyovent which we have developed with the supports of Republic of Turkey Science, Industry and Technology Ministry, Scientific and Technological Research Council of Turkey (TUBITAK) and Bilkent University Cyberpark, we make a difference in the world health sector. In addition to achieving great success in a short time with this new generation technology, we contribute to the health of many individuals in the world.

5000+
Devices

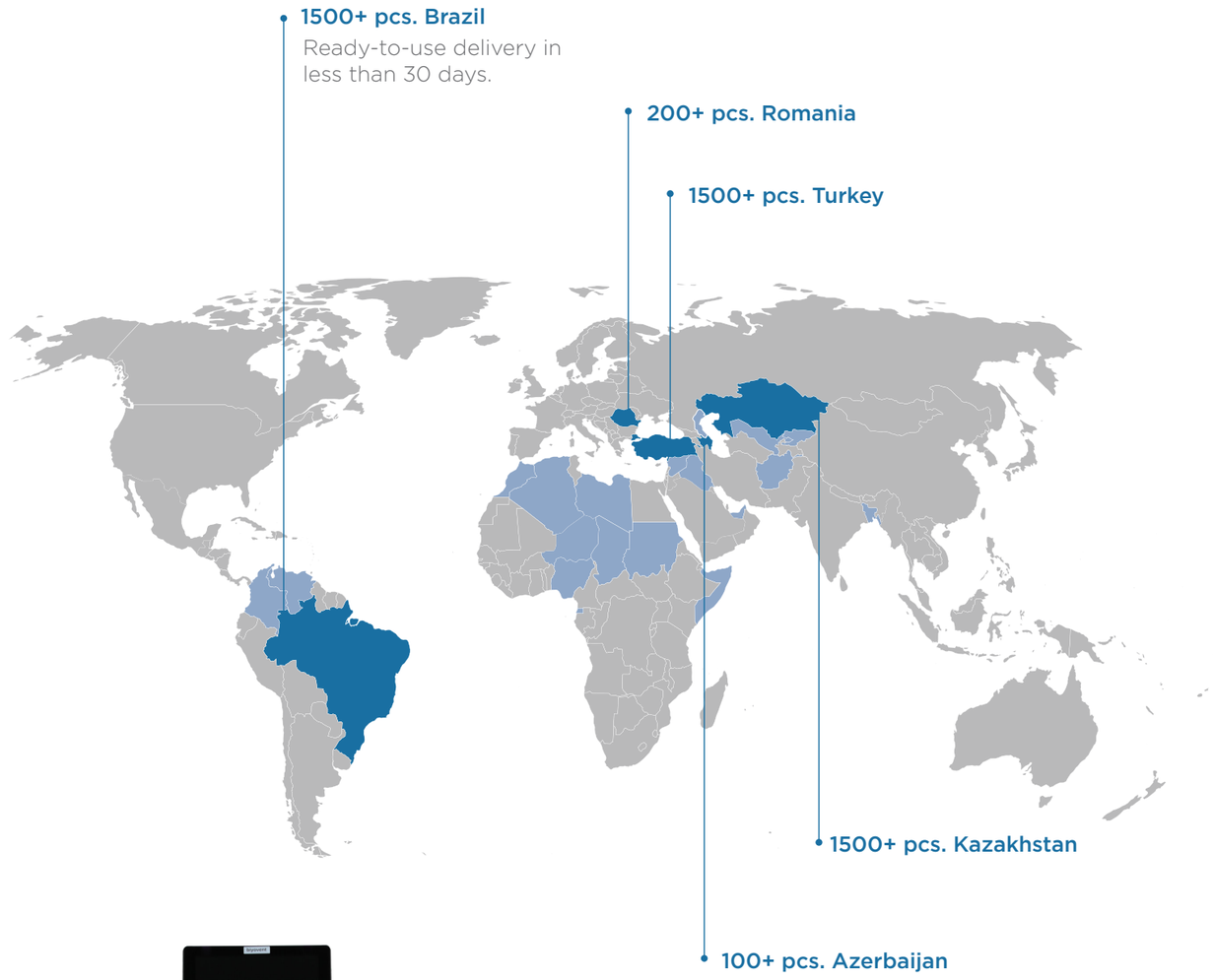
With our thousands of devices that are actively used all over the world, we affect the lives of many people and become hope for your loved ones.

25+
Countries

We continue to help all healthcare professionals and patients in difficult times of the world, such as the Covid 19 process.

20
Delivery in less than 20 Days

We know that time is valuable for health, when dispatching/ sending devices abroad, we deliver them ready to use in less than 20 days.



We take firm steps forward in our goal of **being the gateway to health.**

BİYOVENT
Intensive Care Type
Medical Ventilator Device

THE NEXT STEP IN **VENTILATOR TECHNOLOGY**

Biyovent, which was developed with the aim of offering products with high technological threshold value, fully meets the needs with its new generation technology. It offers high quality in terms of both technology and health, thanks to its features that cover all the deficits that the ventilator devices used up to this time cannot offer and the doctors cannot meet the demands.

With every detail designated from design to hardware, from software to technology and developed with a holistic approach, Biyovent adds value to health with its modern and ergonomic design, user-friendly interface, traditional and innovative operating modes, and adaptable structure to different patient groups. In the ventilators used until this time, the fact that there are more parts that change according to the needs of the patient and these parts are very expensive in terms of cost are minimized with Biyovent.

This situation, which causes economic and technical disadvantages in ventilator devices, is no longer a disadvantage with the new generation ventilator technology developed for the need. With its ability to meet the needs of many patients by itself and the need for minimum extra parts, Biyovent adds an innovative understanding to ventilator device technology and provides an advantage with its economic structure.

DESCRIPTION OF **PERSONALIZED TREATMENT**

Effective Treatment For the Needs of Every Patient

The medical state and needs of every patient are different. Biyovent which is developed with this awareness, offers a customizable structure based on patient needs. Thus, it provides advantages to both the patient and the doctor for the most effective treatment.

With Biyovent, in which every detail is considered for health, characteristics such as height and weight of the patients are entered during use in pediatric and adult patients, and the most appropriate treatment method is provided to the patient.

In addition, the changing clinical needs can be followed up by recording the values related to the patient's condition besides physical characteristics. Thus, it is ensured that the most appropriate and correct treatment can be performed to each patient.

In terms of usage, Biyovent helps healthcare professionals to reach information they need and provides the opportunity to choose Non-Invasive, Invasive Ventilation and N-CPap, HFO therapy methods in performing the treatment method that the patient needs. With its advanced software features, Biyovent, which establishes a safe infrastructure for treatment, maximizes safety with the ability to select the length and thickness of the air canal circuit to be used for the patient from the air canal settings and adjustable alarm limits.

Invasive and Non-Invasive Ventilation

Integrated Nebulizer

High Flow Oxygen Therapy and N-CPAP (nasal C-PAP)

Suitable for Neonatal (Optional)
Pediatric and Adult Patients

Smart Ventilation Modes

INNOVATIVE DESIGN, **COMPREHENSIVE SOLUTIONS**

Design Suitable for Quick and Easy Installation

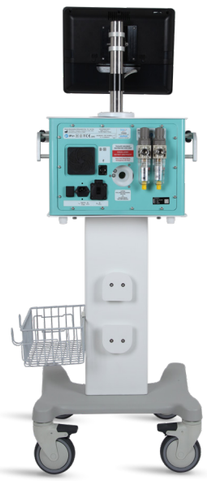
Biyovent is installed quickly and easily with its triple structure. Thanks to its ergonomic design consisting of foot, support and main body parts connected to the screen, it provides ease of installation. Biyovent, which allows parts to be connected with each other with eight screws, helps to operate quickly in a solution-oriented manner thanks to its simplified installation system rather than a complex configuration during device installation.

- 15 inch high definition color screen
- Sensitive touch
- Easy to switch between modes
- Easily adjustable mode parameters
- Simultaneous monitoring of more than 30 parameters.

- Power supply for humidifier
- External Nebulizer Input (USB)
- Emergency valve

- Multiple-use autoclavable Expiratory block
- Nebulizer outflow

- Wheels with increased shock absorption
- Lock mechanism
- Safe design
- Easy to use

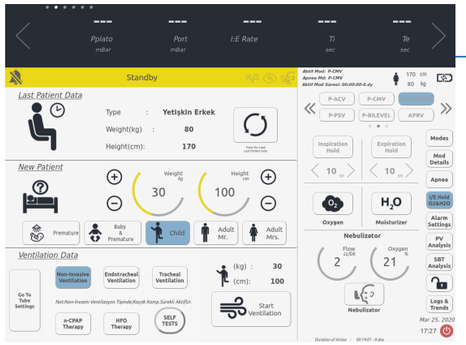


ADVANCED SOFTWARE, **EASY TO USE**

User-Driven Display System

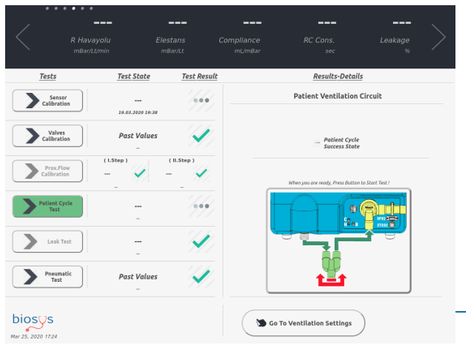
With its advanced software features and user-driven interface design, Biyovent simultaneously displays 3 graphics, 3 cycles and lung dynamic status. Thanks to the visual aided interface design used in accessing information, it provides convenience in learning and practice, allowing access to more than 30 parameters on the same screen. With its high definition of 15 inches, it shows the information on the system clearly and in detail. Adjustments are made easily on the screen, which has sensitive touch feature, and quick steps are taken for the necessary adjustments in the appropriate treatment for the patient. In addition to being able to monitor the instantaneous measurement values by displaying graphically for sudden situations related to the patient, it also helps to get quick intervention by giving warnings in case of alarm. In addition, it allows to see the dynamic state of the lung with the lung diagram, which offers intelligent ventilation monitoring.

With its easy-to-use interface design, patient details can be entered easily and the device provides the opportunity to customize parameters according to the patient.



It allows to monitor/ see the dynamic state of lung with lung diagram, which provides intelligent ventilation monitoring.

Allows easy calibration in 3 steps with directions on the screen.



Monitoring parameters can be accessed on a single screen, allowing more than 30 parameters to be monitored simultaneously.

APPROPRIATE TREATMENT FOR EVERY PATIENT

Ventilation Modes for All Ages and Conditions

- Pressure Controlled Modes (P-ACV P-SIMV+PS P-CMV P-PSV P-Bi-level APRV)
- Volume Controlled Modes (V-ACV V-ACV(PRVC) V-CMV V-SIMV+PS, V-SIMV(PRVC)+PS)
- Spontaneous Modes (SPN-PS SPN-VS)
- Smart Modes [SAV(WOB Optimisation)]

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TECHNICAL **SPECIFICATIONS**

Pressure-Targeted Modes
P-ACV
P-SIMV+PS
P-CMV
P-PSV
P-Bilevel
APRV
Volume-Targeted Modes
V-ACV
V-ACV(PRVC)
V-CMV
V-SIMV+PS
V-SIMV(PRVC)+P
Spontaneous Modes
SPN-PS
SPN-VS
Optional Features
Use in neonatal patients
SAV (WOB Optimisation)

Monitoring Parameters	
Ppeak (cmH2O)	Compliance (mL/cmH2O)
Peep (cmH2O)	RC Constant (sec.)
Minute Volume (Lt/mins.)	Leakage (%)
Tidal Volume (ml)	WOB (joule)
Breath Number (Number/mins.)	WOB/Lt (joule/Lt)
Pplato (cmH2O)	Vresidual (mL)
Port (cmH2O)	Vexpiratory (mL)
I:E Rate	Vinspiration (mL)
Ti (sec.)	AutoPEEP (cmH2O)
Te (sec.)	P0.1 (cmH2O/ 0.1s)
Inspiration Peak Flow (Lt/mins.)	RSBI (ss/min)Lt
Expiratory Peak Flow (Lt/mins.)	PTP (cmH2OXsec)
Oxygen (%)	P_nif (cmH2O)
Minute Volume (Spn) (Lt/mins.)	Expiratory Volume/mins. (Lt/mins.)
Breath Number (Spon) (Number/min.)	Leakage Constant (Ltr/m)/cmH2O)
R Airway (cmH2O/ Ltr/sec)	Instant Tidal Volume (mL)
Elestance (cmH2O/Ltr) Elestance (cmH2O/Ltr)	rcExp (sec.)

Patient Suitability and Performance Suitability Child, Paediatric
Breath Number: 1-150/mins.
T inspiration: 0.1-10 sec.
Tidal Volume: 0.02-0.3 Litre
Flow: 1-60 Litre/Mins.
Adult
Breath Number: 1-100/mins.
T inspiration: 0.1-10 sec.
Tidal Volume: 0.1-3 Litre
Flow: 2-120 Litre/Mins.

Operation Features
Inspiration Pressure: 2-100 mBar
Inspiration Duration: 0.1-10 Sec.
Peep Pressure: 0-50 mBar
Breathe Speed: (ç) 1-150/mins. (y) 1-100/mins.
Flow: (ç) 1-60 lt/mins. (y) 2-120 lt/mins.
O2 Mixture: 21-100%
Spontaneous Pressure Support: 0-100 mBar
I/E Rate: 1:10 (x60*)-10:1 (ç): Child, (y): Adult

Pressure Welding Features
O2 Pressure: 2.5 - 7 Bar Central System/Tube
Air Pressure: 2.5 - 7 Bar Central System/Tube
Automatic change and alarm display at the end of welding
Operating with Medical compressor / Regulator
Electrical Features
Battery Duration: 2 hours + 8 hours (Optional)
Mains Voltage: 180 - 264 VAC
Power Consumption: 47 - 63 Hz 100W
Size and Weight
H: 150 cm / D: 58 cm / W: 58 cm
Weight: 55 Kg
Display movement: To the right or left 150˚ to up and down 15˚
Display: Full touch screen

Digital Interfaces
USB: 4 pcs. / COM: 2 pcs.
HDMI: 1 pcs. / LAN: 2 pcs.
Display Port: 1 pc.
Mic. In: 1 pc.

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